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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/626,518	07/25/2003	Youichi Koseki	Q76696	1118
23373 7590 06/26/2007 SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			EXAMINER RIZK, SAMIR WADIE	
			ART UNIT 2112	PAPER NUMBER
			MAIL DATE 06/26/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No. 10/626,518	Applicant(s) KOSEKI, YOUICHI	
	Examiner Sam Rizk	Art Unit 2112	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 25 July 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 10-18 and 24-26 is/are allowed.
- 6) ☒ Claim(s) 1-7, 9, 19, 20 and 22 is/are rejected.
- 7) ☒ Claim(s) 8, 21 and 23 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 July 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>11/31/2003, 10/25/2005, 5/7/2007</u>                          | 6) <input type="checkbox"/> Other: _____                          |

### ***DETAILED ACTIONS***

- Claims 1-26 have been submitted for examination
- Claims 1-7, 9, 19, 20 and 22 have been rejected
- Claims 8 and 21 and 23 are objected to
- Claims 10-18 and 24-26 are allowed

### ***Drawings***

1. The drawings are objected to because:

The word "Flug" is misspelled in FIG. 4, reference character (16).

It should read "Flag".

Same objection with regard to FIG. 10, reference character (16)

Same objection with regard to FIG. 12, reference character (16)

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must

be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Objections***

2. Claim 8 is objected to because of the following informalities:

Claim 8, lines 2-3 the word "cub-code" is misspelled. Should read "sub-code".

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

3. Claim 1 recites the limitation "the read sub-code synchronization" in line 9. There is insufficient antecedent basis for this limitation in the claim.
4. Claim 3 recites the limitation "a sub-code synchronization" in line 5 and in line 10. This renders the claim indefinite because it is unclear whether the "a sub-code synchronization" in line 10 is the same one as in line 5 or a second one. See MPEP § 2173.05(d).

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-7, 9, 19, 20 and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Packer US patent no. 6058453 (Hereinafter Packer).

6. In regard to claim 1, Packer teaches:

An optical disk playback apparatus for playing back main data and an associated sub-code read from an optical recording medium, said apparatus comprising:

- an interleave RAM for storing the main data; and

(Note: FIG. 5A, reference characters (504a) & (504b) in Packer)

- interleave RAM control means for writing a sub-code synchronization signal generated by performing a predefined synchronization protection on synchronization information included in the sub-code into an empty area of said interleave RAM to manage addresses with a FIFO area in a manner similar to the main data, causing the read sub-code synchronization signal to function in synchronization with the main data.

(Note: FIG. 5A, reference characters (504a), (504b), (510), (400), (516), and (519) and col. 7, lines (12-20) and lines (51-67) through col. 8, lines (1-9) in Packer)

The applicant admitted background art in figure 1 and the standard defined the sub-code comprising the sub-code synchronization bit as claimed in claim 1. Also note col. 2, lines 38-39 in Packer.

7. In regard to claim 2, Suenaga teaches:

- The apparatus according to claim 1, further comprising: a buffer memory for external output, wherein the sub-code synchronization signal controls start of a write into said buffer memory when the main

data read from said interleave RAM is stored in said buffer memory as decoded data.

(Note: FIG. 3 and col. 7, lines (52-65) in Packer)

8. In regard to claim 3, Packer teaches:

- The apparatus according to claim 1, wherein said empty area for storing the sub-code synchronization signal is a memory area adjacent to a position at which a data symbol allocated an interleave delay is placed out of a group of data symbols in each frame into which the main data is written.

(Note: FIG. 4 and col. Col.6, lines (23-25) in Packer)

9. In regard to claim 4, Packer teaches:

- The apparatus according to claim 3, wherein said empty area for storing the sub-code synchronization signal has a memory size with margin addresses equivalent to a data symbol which is allocated the minimum or maximum interleave delay.

(Note: FIG. 6A in Packer)

10. In regard to claim 5, Packer teaches:

- The apparatus according to claim 1, wherein said interleave RAM control means includes synchronization signal writing means for writing the sub-code synchronization signal into said interleave RAM once per frame.

(Note: FIG. 5A reference character (510) in Packer0

11. In regard to claim 6, Packer teaches:

- The apparatus according to claim 1, wherein said interleave RAM includes an area in said empty area for storing the sub-code synchronization signal, said area including a margin address area for controlling a delay due to a FIFO operation.

(Note: FIG. 5C and col. 9, lines (1-13) in Packer)

12. In regard to claim 7, Packer teaches:

- The apparatus according to claim 1, wherein said sub-code synchronization signal stored in said empty area of said interleave RAM comprises one bit.

The applicant admitted background art in figure 1 and the standard defined the sub-code comprising the sub-code synchronization bit.

Also note col. 2, lines (38-39) in Packer.

13. In regard to claim 9, Packer teaches:

- The apparatus according to claim 1, wherein minimum configuration for storing said sub-code synchronization signal includes three storage areas including a storage area for margin addresses, a storage area for storing a data write address, and a storage area for storing a data read address.

(Note: FIG. 4 in Packer)

14. Claims 19, 20 and 22 are rejected for the same reasons as per claim 1.

***Allowable Subject Matter***

15. Claims 8, and 21 and 23 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

**REASONS FOR ALLOWANCE**

The following is an examiner's statement of reasons for allowance:

16. The prior Art of record and, in particular Packer teaches substantially all the limitations in claim 1.

However, the prior art do not teach, suggest, or otherwise render obvious the claimed limitation in claim 8:

- The apparatus according to claim 1, further comprising means for storing, in said empty area of said interleave RAM, symbol data in which a sub-code symbol bit P is replaced with bit data which is the sub-code synchronization signal, and separating a sub-code synchronization signal, a Q-bit, an R-bit, an S-bit, a T-bit, a U-bit, a V-bit and a W-bit from the symbol data retrieved through de-interleaving.

17. Claim 21 has similar language as per claim 8.
18. Claim 23 has similar language as per 16.
19. Claim 10 is allowed.

**REASONS FOR ALLOWANCE**

The following is an examiner's statement of reasons for allowance:

20. The prior Art of record and, in particular Packer teaches:



Art Unit: 2112

An optical disk playback apparatus for playing back main data and an associated sub-code read from an optical recording medium, said apparatus comprising:

- an interleave RAM for storing the main data; and
- interleave RAM control means for writing a sub-code synchronization signal generated by performing a predefined synchronization protection on synchronization information included in the sub-code into an empty area of said interleave RAM to manage addresses with a FIFO area in a manner similar to the main data, causing the sub-code synchronization signal read from said interleave RAM to function as a sub-code synchronization signal synchronized with the main data,

However, the prior art do not teach, suggest, or otherwise render obvious the claimed limitation in claim 10:

- said interleave RAM control means including means for writing, when said FIFO area included in said interleave RAM is centered in response to an underflow of said FIFO area, "0" data into addresses of a sub-code synchronization signal storage area jumped by said centering.

21. Claim 11 depend from claim 10.

22. Claim 12 is allowed.

### REASONS FOR ALLOWANCE

The following is an examiner's statement of reasons for allowance:

23. The prior Art of record and, in particular Packer teaches:

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An optical disk playback apparatus for playing back main data and an associated sub-code read from an optical recording medium, said apparatus comprising:

- an Interleave RAM for storing the main data;
- interleave RAM control means for writing a sub-code synchronization signal generated by performing a predefined synchronization protection on synchronization information included in the sub-cod into an empty area of said interleave RAM to manage the address with a FIFO area in a manner similar to the main data, causing the sub-code synchronization signal read from said interleave RAM to function as a sub-code synchronization signal synchronized with the main data,

However, the prior art do not teach, suggest, or otherwise render obvious the claimed limitation in claim 12:

- synchronization signal masking means for masking the sub-code synchronization signal read from said Interleave RAM for a certain period from an underflow of said FIFO area to a read of addresses of a sub-code synchronization signal storage area jumped by centering of said. FIFO area.

24. Claim 13 depend from claim 12.

25. Claim 14 is allowed.

### REASONS FOR ALLOWANCE

The following is an examiner's statement of reasons for allowance:

26. The prior art do not teach, suggest, or otherwise render obvious the claimed limitation in claim 14:

- double synchronization protecting means for storing the main data in said interleave RAM, and also writing a 1-bit sub-code synchronization signal generated by performing a predefined first synchronization protection on synchronization information included in the sub-code into an empty area of said interleave RAM, and performing a second synchronization protection different from the first synchronization protection on the sub-code synchronization signal read from said Interleave RAM together with the main data.

27. Claim 15 depend from claim 14.

28. Claim 16 is allowed.

### REASONS FOR ALLOWANCE

The following is an examiner's statement of reasons for allowance:

29. The prior art do not teach, suggest, or otherwise render obvious the claimed limitation in claim 16:

- An optical disk playback apparatus for playing back main data and an associated sub-code read from an optical recording medium, said apparatus comprising:
  - a flag RAM for storing a flag signal associated with the main data; and
  - flag RAM control means for writing a sub-code synchronization signal generated by performing a predefined synchronization protection on

synchronization information included in the sub-code into an empty  
area of said flag RAM to manage addresses with a FIFO area in a  
manner similar to the main data, causing the sub-code synchronization  
signal read from said flag RAM to function in synchronization with the  
main data.

- 30. Claim 17 depend from claim 16.
- 31. Claim 18 has similar language as per claim 16.
- 32. Claim 24 ahs similar language as per claim 10.
- 33. Claim 25 has similar language as per claim 14.
- 34. Claim 26 depend from claim 25.

#### ***Conclusion***

- 35. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
  - Suenaga et al. US patent no. 6519216 teaches CD sub-code transfer system for transferring correct Q sub-codes.
  - Kyle US patent no. 5931921 teaches system for CD-ROM audio playback utilizing blocking of data writing, resuming writing responsive to detecting data in response to difference between desired address and present address.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sam Rizk whose telephone number is (571) 272-8191. The examiner can normally be reached on M-F 8-5.

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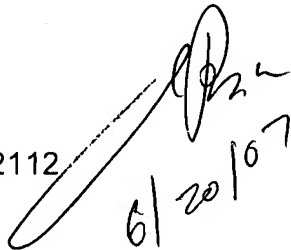
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jacques Louis-Jacques can be reached on (571) 272-6962. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronics Business Center (EBC) at 866-217-9197 (toll-free)

Sam Rizk,

Examiner

ART UNIT 2112



6/20/07



GUY LAMARRE  
PRIMARY EXAMINER